D H E C PROMOTE PROTECT PROSPER	Mining Form MR-500	S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL BUREAU OF LAND AND WASTE MANAGEMENT DIVISION OF MINING AND SOLID WASTE MANAGEMENT 2600 Bull Street, Columbia, SC 29201 Telephone Number(803) 869-4261 Fax Number: (803) 896-4001

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
DIVISION OF MINING AND SOLID WASTE MANAGEMENT
2600 Bull Street; Columbia, SC 29201
Telephone Number (803) 896-4261 Fax Number (803) 896-4001

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DIVISION OF MINING & SOLID WASTE MANAGEMENT BL&WM

RECLAMATION PLAN

FORM MR-500 DATE VERSION ADOPTED: 7/1/94

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As required in Section 48-20-90 of the South Carolina Mining Act, "An operator shall submit with his application for an operating permit a proposed reclamation plan. The reclamation plan for an operating permit only must be furnished to the local soil and water conservation district in which the mining operation is to be conducted. The plan must include as a minimum each of the elements specified in the definition of 'reclamation plan' in Section 48-20-40 and information required by the department. The reclamation plan must provide that reclamation activities, particularly those relating to control of erosion, to the extent feasible, must be conducted simultaneously with mining operations and be initiated at the earliest practicable time after completion or termination of mining on a segment of the permitted land. The plan must provide that reclamation activities must be completed within two years after completion or termination of mining on each segment of the area for which an operation permit is requested unless a longer period specifically is permitted by the department."

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I. APPLICANT INFORMATION

1. Name of Company: Giant Cement Company

2. Name of Proposed Mine: Harleyville Quarry County: Dorchester

3. Home Office Address: P.O. Box 218 (Street **and** P.O. Box) — 803.496.2200 (Telephone No.)

Harleyville (City) SC (State) 29448 (Zip Code) — 803.496.2195 (Fax. No.)

4. Local Office Address: Same as Home Office (Street **and** P.O. Box) — (Telephone No.)

(City) (State) (Zip Code) — (Fax. No.)

5. Designate to which office Official Mail is to be sent:

Home Office: x Local Office:

6. Name of company personnel and their title to be the contact for official business and correspondence: Clint Roberts, Manager Environmental Compliance

II. ENVIRONMENTAL PROTECTION

1. Describe practices to protect adjacent resources such as roads, wildlife areas, woodland, cropland and others during mining and reclamation.

The mine will have a minimum thirty (30) foot buffer along all sides – much wider in some areas. The buffer will be maintained in a natural condition. The buffers will be supplemented with tree and shrub plantings, where appropriate. Significant upland and wetland areas adjacent to the mine site will be protected for mitigation, as described in the attached mine Reclamation Plan.

2. Describe proposed methods to limit significant adverse effects on adjacent surface water and groundwater resources.

The mine site will be physically separated from adjacent surface water corridors to minimize the effects to surface water. Ground water will collect in the mine pits at near normal levels. Some pumping of ground water will be required in selected cells, however, this water will be pumped to adjacent wet cells on site whenever possible. Stormwater will be allowed to settle within the open pits, with excess water filtering through a wetland creation area to an existing permitted NPDES outfall. Suspended solids will have sufficient areas and distance/time to settle or be filtered by vegetated communities.

3. Describe proposed methods to limit significant adverse effects on known significant cultural or historic sites within the proposed permitted area.

There are no known cultural or historic resources within the proposed permitted area, however, if such resources are discovered, the facility will immediately cease operations and contract the South Carolina Department of Archives and History and South Carolina DHEC -- Division of Mining and Solid Waste Management. An evaluation of the find will be performed and authorization to continue mining will be received prior to beginning mine operations again.

4. Describe method to prevent or eliminate conditions that could be hazardous to animal or fish life in or adjacent to the permitted area.

Discharge of water from the mine site will be through dedicated discharge/permitted NPDES corridors. No additional impact is expected to occur to adjacent streams and wetlands. The mine walls will be sloped to prevent deterioration thereby reducing dangerous conditions for human or animal presence within the active portion of the site.

5. Describe how applicant will comply with State air quality and water quality standards as established by the S.C. Department of Health and Environmental Control.

The proposed operation is for the removal of limestone marl only, no additional processes are included in this operation. Standards established by existing air quality permits will be complied with. If dusting problems occur, access and haul roads will be watered down to minimize adverse effects. No additional air quality concerns are anticipated. Any discharges from the mine pit will be through existing permitted NPDES outfalls and will comply with existing State standards for these discharges.

III.RECLAMATION OF AFFECTED AREA

6. State useful purpose(s) the affected land is being proposed to be reclaimed to. More than one purpose may be checked, but information should be submitted to support the feasibility for each proposed purpose.

a. Lake or pond 30%	**f. Grassland**
b. Agriculture	**g. Recreation**
c. Woodlands 70%	**h. Wetlands**
d. Residential	**i. Park**
e. Commercial	**j. Other**

7. State the final maximum surface gradient(s) (slope) in soil, sand, or other unconsolidated materials on reclaimed land. Surface gradients steeper than 3H:1V (18 degrees or 33 percent) may be required to submit geotechnical data and studies to demonstrate that the steeper slopes will remain stable following final reclamation.

The side slopes for final reclamation will be 3H:1V (18 degrees or 33 percent) or greater.

8. How will the final slopes in unconsolidated material be accomplished? If the slope will be by backfilling, demonstrate that there is adequate material to accomplish the stated final gradient. If gradient is to be achieved by bring in material from outside the permitted area, state the nature of the material and approximate quantities. If the gradient is to be achieved by grading, show that there is adequate area for grading to achieve gradient (ie. adequate distance between the property line and edge of highwall). Operator should show calculations or other appropriate information to demonstrate that there is adequate materials in backfilling and grading to meet the requirements for final slope.

Proper distances will be maintained between the edge of the excavation and the property boundary to allow for final grading of slopes. A combination of backfilling with overburden and vertical wall grading will be used to form the final slopes. All final slopes will be reclaimed in a 3H:1V manner, compacted, covered with topsoil, stabilized, and seeded.

9. Describe the plan for revegetation or other surface treatment of affected area(s). The revegetation plan shall include but not be limited to the following: (a) planned soil test; (b) site preparation and fertilization; (c) seed or plant selection; (d) rate of seeding or amount of planting per acre; (e) maintenance.

The slopes of the reclaimed ponds and the reclaimed woodlands will be shaped, stabilized and seeded according to specifications developed through coordination with the USDA-NRCS, and application of practices indentified in the *Conservation and Reclamation for Mined Lands* offered by the former SC Land Resources Commission (SCLRC). The soil will be tested for pH to assure optimum planting conditions. The site will be prepared using a disc tractor, limed and fertilized as appropriate, and then hydroseeded with mixture of perennial grasses and shrubs (Serecia lespedeza) at appropriate rate. A tackifier may also be used to hold down the seed mixture until root formation has occurred. After the vegetation has emerged, the site will be maintained through the use of an industrial lawnmower such as a bush hog or other tractor based mower.

10. Provide, as a separate document, a closure plan of the mine and permitted facilities to prevent a release of contaminants from being harmful to the environment. A closure plan is not necessary for all mines, but is required where the possibility exist for (a) acid rock drainage; (b) where the National Pollutant Discharge Elimination Systems (NPDES) Permit have discharge limitation parameters other than pH and Total Suspended Solids (TSS); (c) chemically treated tailings or stockpiles (excludes fertilizer or lime for revegetation purposes).

A closure plan for this mining operation is not required.

11. Method of control of contaminants and disposal of mine waste soil, rock, mineral, scrap, tailings, slimes, and other material directly connected with the mining, cleaning, and preparation of mineral substances mined and includes all waste materials deposited on or in the permit area from any source.

No such materials are to be produced during the mining operations proposed at this site. All removed cover soils will be reused as based materials for the re-vegetation of the site during reclamation activities.

12. Method of reclaiming settling and/or sediment ponds.

The mine area itself will act as a settling pond used to filter out stormwater events. All portions of the mine area that are used as settling ponds will be reclaimed as described in 9 above.

13. Describe method of restoration or establishment of stream channels, stream banks and site drainage to a condition minimizing erosion, siltation and other pollution.

There is no surface water drainage through the mine site. Overflow from the existing borrow areas that originate on the site discharges into adjacent lowlands and wetlands northeast of the mine site. This existing drainage corridor is stable and will not be disturbed.

14. What are the maintenance plans to insure that the reclamation practices established on the affected land will not deteriorate before released by the Department?

Once the vegetation emerges, the site will be cut using a tractor style mower (bush hog) whenever the vegetation gets sufficiently high. In addition, the site will be reviewed monthly to assure that no barren areas have developed. All such areas will be addressed as soon as discovered. The damaged areas will be re-vegetated in the same manner as detailed above for short/long term reclamation.

15. For final reclamation, submit information about practices to provide for safety to persons and to adjoining property in all excavations. Identify areas of potential danger (vertical walls, unstable slopes, unstable surface on clay slimes, etc.) and provide appropriate safety provisions. These provisions can include but are not limited to setbacks, fencing, signs, benching, guardrails and boulders.

Silt fencing and other erosion control measures will remain intact until the site has sufficiently revegetated. The site will have signs posted along all boundaries to make sure that the public is aware of the potential hazards associated with a mining operation. In addition, any unmaintained access road to the site, as well as the primary access road from Highway 453, will be provided with a locked gate to prevent unauthorized or unknowing access to the site when mining personnel are not in attendance. The side walls of the mine are sloped as to prevent potential hazards from vertical walls and unstable slopes.

16. What provisions will be taken to prevent noxious, odious, or foul pools of water from collecting and remaining on the mined area? For mines to be reclaimed as lakes or ponds, provide supporting information that a minimum water depth of four (4) feet on at least fifty percent (50%) of the pond surface area can be maintained.

No conditions of this nature are expected. A minimum water depth of approximately 10 feet is expected in the reclaimed lake.

17. Identify any structures (e.g. buildings, roads) that are proposed to remain as part of final reclamation. Provide justification for leaving any structures.

The perimeter haul road may be left in place for access purposes.

18. Attach two (2) copies of a map of the area (referred to as the RECLAMATION MAP) that shows the reclamation practices and conservation practices to be implemented. The following should be shown:
A. The outline of the proposed final limits of the excavation, during the number of years for which the permit is requested.

B. The approximate final surface gradient(s) and contour(s) of the area to be reclaimed. This would include the sides and bottoms of mines reclaimed of ponds and lakes.

C. The outline of the tailings disposal area.

D. The outline of disposal areas for spoil and refuse (exclusive of tailings ponds).

E. The approximate location of the mean shore line of any impoundment or water body and inlet and/or outlet structures which will remain upon final reclamation.

F. The approximate locations of access roads, haul roads, ramps or buildings which will remain upon final reclamation.

G. The approximate locations of various vegetative treatments.

H. The proposed locations of re-established streams, ditches or drainage channels to provide for site drainage.

I. The proposed locations of diversions, terraces, silt fences, brush barriers or other Best Management Practices to be used for preventing or controlling erosion and off-site siltation.

J. Proposed locations of the measures to provide safety to persons and adjoining property.

K. Segments of the mine that can be mined and reclaimed as an ongoing basis.

L. The boundaries of the permitted area.

M. The boundaries of the affected area for the anticipated life of the mine.

N. The boundaries of the 100-year floodplain, where appropriate.

O. Identify sections of mine where the final surface gradient will be achieved by grading and/or backfilling.

P. A legend showing the name of the applicant, the name of the proposed mine, the north arrow, the county, the scale, the date of preparation and the name and title of the person who prepared the map.

THE REQUIRED RECLAMATION MAP SHALL HAVE A NEAT, LEGIBLE APPEARANCE AND BE OF SUFFICIENT SCALE TO CLEARLY SHOW THE REQUIRED INFORMATION LISTED ABOVE. THE BASE FOR THE MAP SHALL BE EITHER A SPECIALLY PREPARED LINE DRAWING, AERIAL PHOTOGRAPH, ENLARGED USGS TOPOGRAPHIC MAP OR A RECENTLY PREPARED PLAT. RECLAMATION MAP SHOULD BE THE SAME SCALE USED FOR THE SITE MAP.

IV. SCHEDULE FOR IMPLEMENTATION OF CONSERVATION AND RECLAMATION PRACTICES

19.As stated in Section 48-20-90 of the S.C. Mining Act, reclamation activities, to the extent feasible, must be conducted simultaneously with mining operations. Identify which areas or segments of the mine are not feasible to reclaim simultaneously with mining. Provide reasons why reclamation can not proceed simultaneously with mining in these areas.

Conservation and reclamation activities for this site will be conducted in each cell (Cells A – E) as marl reserves are expended and excavation terminates. As such the reclamation activities will be conducted simultaneously with the mining over the life of the mine.

20. Section 48-20-40(16)(1) of the S.C. Mining Act requires a time schedule, including the anticipated years for completion of reclamation by segments. This time schedule should meet the requirements of Section 48-20-90 of the Mining Act.

SCHEDULE FOR IMPLEMENTING CONSERVATION AND RECLAMATION PRACTICES

Conservation & Reclamation Practices	Segment or Area	Planned		*Applied		Notes
		Amount	Year	Amount	Month/Year	
Install monitoring wells	Segs. 6,7,8,9	4	2005	4	2005	Prior to excavation of Segs. 7,8,9; see Note 1
Mark 75' buffer (along PL).	Segs. 7 & 8	~4500 lf	2005	4,500	2005	Prior to disturbance of Segs. 7 & 8 see Note 2
Install appropriate BMPs.	PA					See Note 3
Stockpile topsoil	Segs 6 & 7	~61.2 Ac.	2005	61.2	2005 - 2007	Initial land disturbance; to be used for mine reclamation.
Excavate (Estimate 13 acres/yr mining rate)	Segs. 6 & 7	~61.2 Ac	2005 Start	Ongoing		
Grade, fertilize, seed slopes & maintain	Seg. 6 & 7	~1,500 lf	2010			See Note 4
Excavate (Estimate 13 acres/yr. mining rate)	Seg. 8	~31.8 Ac.	2009 Start	Ongoing		Start removing topsoil ~1 - 2 yrs. prior to excavation.
Grade, fertilize, seed slopes & maintain	Seg. 8	~2,900 lf	2013			See Note 4
Mark Buffer, Place Danger signs	Seg. 9	~3,700 lf	2009			Prior to mining or removing topsoil
Excavate (Estimate 13 acres/yr. mining rate)	Seg. 9	~20.1 Ac.	2010 Start			Start removing topsoil ~1 - 2 yrs. prior to excavation.
Grade, fertilize, seed slopes & maintain	Seg. 9	~ 3,700 lf	2015			See Note 4.
Mark Buffer, Construct Berm, Construct fence, Place Danger signs	Segs 10 & 11	~700 lf	2009 - 2011			Prior to mining or removing topsoil
Excavate (Estimate 13 acres/yr. mining rate)	Seg 10	~27.5 Ac	2010 Start			Start removing topsoil ~1 - 2 yrs. prior to excavation.
Excavate (Estimate 13 acres/yr mining rate)	Seg 11	~16.5 Ac	2013 Start			Start removing topsoil ~1 - 2 yrs. prior to excavation.
Grade, fertilize, seed slopes & maintain	Seg. 11	~700 lf	2016			See Note 4
Mark Buffer, Construct Berm, Construct fence, Place Danger signs	Seg. 12	~3,200 lf	2013			Prior to mining or removing topsoil
Excavate (Estimate 13 acres/yr. mining rate)	Seg 12	~27.2 ac	2015 Start			Start removing topsoil ~1 - 2 yrs. prior to excavation.
Grade, fertilize, seed slopes & maintain	Seg. 12	~3,200 lf	2018			See Note 4
Seek release of Segs. 2, 3, &5	Segs 2, 3 & 5	~200 ac.	2011			Segments currently under reclamation – seek possible release
Grade, fertilize, seed slopes & maintain	Seg. 1	~10,900 lf	2011			See Note 4
Remove equipment/ misc. debris	All	~597.5 ac.	2020			To include area designated as "Storage"
Inspect, repair, maintain	All	~597.5 ac.	2020			Until released by the Department.

Note 1 - For well locations, see map SM-120-3V1. Wells shall be constructed per R.61-71, Well Standards and Regulations.
Note 2 - Buffer shall be staked using semi-permanent, highly visible markers.
Note 3 - Best Management Practices (e.g. silt fences, hay bales, stone rip rap, etc.) shall be installed and maintained as necessary to ensure stormwater is retained on site
Note 4 - Reclamation on each segment may begin at an earlier date if mining proceeds at a rate faster than anticipated. *Operator will reclaim areas within segments as soon as feasible.*
Note 5 - Remaining vertical high walls shall be sloped to a minimum 3H:1V grade to the anticipated water level

AA – Affected Area BMPs – Best Management Practices Fert. – Fertilize LOM – Life of Mine MW - Monitoring Well PA – Permitted Area
PL – Property Line SB – Sediment Basin ST – Sediment Traps SW – Stormwater TS – Topsoil WL – Wetlands

* Completed by the Department

20. Section 48-20-40(16)(1) of the S.C. Mining Act requires a time schedule, including the anticipated years for completion of reclamation by segments. This time schedule should meet the requirements of Section 48-20-90 of the Mining Act.

SCHEDULE FOR IMPLEMENTING CONSERVATION AND RECLAMATION PRACTICES

Conservation & Reclamation Practices	Segment or Area	Planned		*Applied		Notes
		Amount	Year	Amount	Month/Year	
Install Monitoring Wells	PA	7	2015			Prior to mining; See Note 1
Install appropriate BMPs	PA					See Note 2
Construct entrance road for sediment control.	along hwy	Minimum 100'	2015			Prior to mining; See Note 3
Post Warning/ Danger signs	along hwy, PL		2015			Prior to mining; See Note 4
Construct wetland mitigation area	NPDES Outfall 004	~5.6 ac.	2016			Prior to initial disturbance
Mark 75' buffer (along PL)	Cell A	~1200 lf	2015			Prior to disturbance of Cell A; See Note 5
Stockpile topsoil (Cell A)	Cell A		2017			Initial land disturbance; see Note 5
Removal/ placement of overburden	Cell A		2017			See Note 7
Grade, fertilize, seed, maintain	Outer perimeter of Cell A	~1200 lf	TBD			See Note 7
Excavate	Cell A	46 ac	TBD			
Mark 75' buffer (along PL); 30' buffer (along transmission line)	Cell B	~3800 lf	TBD			Prior to disturbance of Cell B; See Note 5
Grade, fertilize, seed, maintain	Outer perimeter of Cell B	~3800 lf	TBD			See Note 7
Excavate	Cell B	79 ac	TBD			

Note 1 - For well locations, see map SM-120-3V1. Wells shall be constructed per R.61-71, Well Standards and Regulations.
Note 2 - Best Management Practices (e.g. silt fences, hay bales, stone rip rap, etc.) shall be installed and maintained as necessary to ensure stormwater is retained on site
Note 3 - The access road shall be properly constructed, stabilized and maintained throughout the Life of Mine to help prevent the accumulation of soils onto the public highway, to prevent erosion (soil loss) and to control fugitive dust.
Note 4 - Additional signs may be required at points of access other than the main entrance/ exit road.
Note 5 - Buffer shall be staked using semi-permanent, highly visible markers.
Note 6 - Excess topsoil and overburden is to be used for reclamation of the quarry area east of SR 453. Any material not needed for reclamation purposes will be placed within previously mined out areas
Note 7 - Reclamation on each segment may begin at an earlier date if mining proceeds at a rate faster than anticipated. *Operator will reclaim areas within segments as soon as feasible.*
Note 8 - An updated reclamation schedule shall be submitted to the Department once the operator has established a time schedule relative to the commencement of mining activities on the West Side

AA – Affected Area BMPs – Best Management Practices Fert. – Fertilize LOM – Life of Mine MW - Monitoring Well PA – Permitted Area
PL – Property Line SB – Sediment Basin ST – Sediment Traps SW – Stormwater TS – Topsoil WL – Wetlands

* Completed by the Department

20. Section 48-20-40(16)(1) of the S.C. Mining Act requires a time schedule, including the anticipated years for completion of reclamation by segments. This time schedule should meet the requirements of Section 48-20-90 of the Mining Act.

SCHEDULE FOR IMPLEMENTING CONSERVATION AND RECLAMATION PRACTICES

Conservation & Reclamation Practices	Segment or Area	Planned		*Applied		Notes
		Amount	Year	Amount	Month/Year	
Mark 75' buffer (along PL); 30' buffer (along transmission line).	Cell C	~3500 lf	TBD			Prior to disturbance of Cell C; See Note 5
Grade, fertilize, seed, maintain	Outer perimeter of Cell C	~3500 lf	TBD			See Note 7
Excavate	Cell C	100.7 AC	TBD			
Mark 75' buffer (along PL).	Cell D	~2700 lf	TBD			Prior to disturbance of Cell D; See Note 5
Grade, fertilize, seed, maintain	Outer perimeter of Cell D	~2700 lf	TBD			See Note 7
Excavate	Cell D	98.4 AC	TBD			
Mark 75' buffer (along PL); 50' setback from wetland areas.	Cell E	~7200 lf	TBD			Prior to disturbance of Cell E; See Note 5
Grade, fertilize, seed, maintain	Outer perimeter of Cell E	~7200 lf	TBD			See Note 7
Excavate	Cell E	123.6 AC	TBD			
Plant native trees/ shrubs	mine buffer		As needed			To provide additional visual screening
Remove equipment/ misc. debris	All	~448 ac.	TBD			See Note 8
Inspect, repair, maintain	All	~448 ac.	TBD			Until released by the Department

Note 1 - For well locations, see map SM-120-3V1. Wells shall be constructed per R.61-71, Well Standards and Regulations.
Note 2 - Best Management Practices (e.g. silt fences, hay bales, stone rip rap, etc.) shall be installed and maintained as necessary to ensure stormwater is retained on site
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* Completed by the Department

YOU ARE NOTIFIED THAT:

1) you, the operator, must file an application to modify the reclamation plan in the event actual reclamation varies from the set forth hereinabove, and

2) if at any time it appears to the Department that the activities under the reclamation plan are failing to achieve the purposes and requirements of the S.C. Mining Act, the Department may modify the RECLAMATION PLAN in accordance to Section 48-20-150.

Signature of Applicant/Operator or his Authorized Representative

W. Mike Kirlin

Printed Name of Applicant/Operator or his Authorized Representative

Plant Manager

Title

31 July 09

Date

Department Use Only

Permit No. _____ Date Application Approved _____ Date Bond Rec'd_____

Bond Amount_____ Blanket or Single Bond Permit Issuance Date_____

ACTION TAKEN ON THIS RECLAMATION PLAN

_____ Approved _____ Denied _____ Approved with Additional Terms and Conditions

By:_____
DIVISION DIRECTOR

Date:_____